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Vol. XXI FEBRUARY, 1951 No. 2

EXAMINATION AND EVALUATION OF HIGH SCHOOL ATHLETES*

THOMAS E. SHAFFER, M.D.**

Competitive athletics are a conspicuous part of the American high school scene. In every community each year scores of youths are candidates for some team. Textbooks and statements about health programs in schools invariably include recommendations for health examination prior to participation in athletics. Often these medical examinations of athletes are the only contact the physicians of a community have with their schools. Very little has been written about the scope and interpretation of examination of athletes, however, and practices must very greatly from the cursory examination of the heart and skeletal system, so often carried out in public schools, to the extensive health appraisal occasionally seen in private schools.

One hesitates to begin a discussion of the examination and evaluation of high school athletes without some introductory remarks about high school athletics in general. For example, the writer has qualms lest the reading of this paper be interpreted as unqualified endorsement of all high school interscholastic sports, regardless of the manner in which they are conducted. Most high school sports are hazardous for growing bodies and accidents are common. The pressures and strains of a pseudo-collegiate setting add to the inherently dangerous situation. The adolescent, in whom one finds, at the same time, growing bones which temporarily outdistance more slowly growing muscles as well as a fundamental urge to risk everything to stand high in the esteem of his contemporaries, is not ideally suited for bruising, fatiguing activities.

One more introductory remark is in order in connection with the relationship of health examinations of athletes to the total health program of a school. It is recognized that in countless

*Presented at Annual Meeting of the American School Health Association, St. Louis, Missouri, October 30, 1950.

**Physician at The University School and Professor, Department of Pediatrics, The Ohio State University, Columbus, Ohio.

schools the medical supervision of interscholastic teams is *the* health program, and in others it is the essential part of the project. A significant statement in this regard was made recently in the report of a conference on school health services: "There is not only considerable pressure to give extra time from available health services to these pupils [athletes] but in some instances there are legal requirements to be met. It is recommended that health services should be spread over the entire school population with emphasis on areas of greatest health need. Athletes are ordinarily among the healthiest segment of the school population and, therefore, should not receive a disproportionate share of available health service for the school age child."[1]

Just as interscholastic and intramural athletics ideally are an integral part of the school's physical education program, so the health supervision of athletes ought to be a facet of the school's health program. If it is customary for health examinations of the pupils to be done in a physician's office or in a health center or clinic, that practice could apply to the athletes. When there is a school physician, athletes should be referred to him in the same way any pupil would be referred when health appraisal is considered necessary. Health examinations of athletes are necessary and desirable, but precautions in administration are needed lest the development of school-wide health services be hindered.

We should not forget that candidates for athletic teams are a segment of the school's population, and that all the principles of health supervision which are recommended for youngsters of school age apply to them as well. Too often health appraisal of athletes has expressed the negative objective of culling out the organically unfit to separate the group into the "eligibles" and the "ineligibles." Those who are judged unfit usually learn that they have some real or suspected impairment but receive no advice about the significance of the problem nor any encouragement to seek treatment.

It might be advisable to hang placards on the walls of the room where athletes are examined, stating some of these aphorisms of school health:

"Identify those who need treatment or further examination."

"Encourage diagnosis and treatment when impairments are found."

---

1. Priorities in Health Services for Children of School Age, Children's Bureau, Public Health Service, Office of Education, Federal Security Agency, Washington, D. C., 1950.

"Furnish information about ALL individuals to the school."
"What the pupil learns from the physician may be more important than what the physician learns about the pupil"

Medical examination of athletes is not simply a process of separating the unfit from the fit. The unfit usually can improve their health and often can be approved for participation later. Many who have suspected impairments are found, after special examinations, to be in good health.

The physician who examines high school athletes should have several special qualifications. He obviously should know something about adolescents. A physician with training in pediatrics would be ideal, but this is almost a Utopian dream. At least he should become familiar with the writings of Gallagher (2, 3), Johnston (4), Frank (5) and others on the health and development of adolescents.

The examiner must also know something about sports and team athletics if he is to be critical in his evaluations and constructive in his advice. High school athletics have some undesirable features. Many of these could be lessened by thoughtful recommendations from physicians concerning youths' fitness for particular sports or even for specified activities within a particular sport. There is not much available information about the energy requirements for various sports, but a physician who knows athletics appreciates the possibility that a near-sighted youth *could* play in the center of the line in football when he would be unfit for the backfield or end positions. Also that a student with quiescent rheumatic heart disease might safely and efficiently participate in baseball whereas it would be foolhardy to allow him to compete in basketball, soccer, or competitive swimming.

There is no need for detailed description of the desirable scope of physical examinations of athletes. The examiner should be thorough and should bear in mind the health problems which are most apt to occur during adolescence. The chief objectives are (a) discovery of symptoms or signs which require diagnostic study and (b) disclosure of characteristics which would help the

2. Gallagher, J. R.: Various Aspects of Adolescence, Yale Journ. of Biol. and Med. *22*:595 (July) 1950.

3. Gallagher, J. R.: Adolescents Have Special Health Problems, The Child, Children's Bureau, Federal Security Agency, Washington, D. C. *15*:29 (Aug.-Sept.) 1950.

4. Johnston, J. A: "Adolescence"—Mitchell-Nelson Textbook of Pediatrics. ed. 5, Philadelphia, W. B. Saunders, 1950, pp. 1587-1600.

5. Frank, Lawrence K.: Certain Problems of Puberty and Adolescence, Journal of Pediatrics *19*:294, 1941.

coach and other teachers to understand the pupil better. For many youngsters, this examination is the only one they will have for many years, and it would be short-sighted indeed to limit the appraisal only to organs or body systems which are affected by physical exertion.

Valid conclusions cannot be drawn from a physical examination unless there is also a health history to increase its meaning. A lengthy account of medical minutiae is not required. A brief questionnaire to disclose past happenings would be sufficient, for these events can be amplified during the interview. Examples of this type of question are: "Have you ever been sick in bed for longer than a week?" "Have you ever been a patient in a hospital?" "Have you ever had an X-ray of any part of your body?" "When were you last examined by a doctor? What was the reason?" "What inoculations have you had?" General questions of this type disclosed health problems which might not be discovered by physical examination alone.

There are some procedures which are especially meaningful in the examination of athletes. One of these is appraisal of vision. Acuity of vision can be tested quite satisfactorily with a Snellen chart, provided the illumination is adequate and there is no glare on the chart (6). Color-vision should be tested as well as rough testing of peripheral vision.

Evaluation of visual impairments in relation to athletics requires considerable judgment. The farsighted youth who wears glasses can usually function safely and efficiently without them in athletics. In some sports such as track, baseball, and basketball a nearsighted individual can safely wear his spectacles and function well. In football this is impossible and a myopic candidate for a backfield or end position should be advised to try for another position where vision is not so important or to choose another sport.

Impaired color-vision is a handicap the coach can evaluate as he sees a player in action.

Unquestionably, hearing should be tested, preferably by a puretone audiometer. Tests by watch tick and whispered voice are notoriously unreliable due to the limited frequency of the sound. A hearing loss of 20 decibels in any frequency requires a careful medical examination of ears and throat. Efficiency in athletics would probably not be impaired by defect of this degree,

6. Shaffer, T. E.: Study of Vision Testing Procedures, Am. Journ. Public Health *38*:1141 (August) 1948.

but losses of 40-45 decibels in the speech range (500-4000 frequencies) would handicap performance.

Examination of the heart and blood vessels has always been a focal point in the evaluation of athletes because of the relationship between cardiovascular function and endurance and exertion. This relationship probably has been over-emphasized.

Routine examination should include pulse rate and blood pressure when the subject is resting, palpation of the cardiac apex impulse and the femoral pulses, and diligent search for cardiac murmurs. Many murmurs are inconstant as the patient changes from sitting to supine to lateral-prone positions. The latter position is favored to make significant murmurs more evident.

It has been found by various authorities that 40 per cent (7) and even 45 per cent (8) of school-age children have cardiac murmurs. Only two to three per cent of this age group have organic heart disease. All children with cardiac murmurs should be suspected of heart disease, but it is obvious that great harm can be done if they are labelled as having cardiac impairment, on insufficient evidence. Messelhoff (9) found that there are no reliable characteristics by which functional murmurs can be differentiated from those found in rheumatic or congenital heart disease. A thorough consideration of the past history and careful examination of the child is required. We have a pressing responsibility to a large segment of the school-age population, however, to verify or disprove suspected heart disease, and plans to carry through on diagnostic procedures should be agreed upon before the routine examinations are begun.

In general, it may be said that systolic murmurs limited to the base of the heart are probably insignificant when there is no history suggesting rheumatic fever, congenital heart abnormality, or systemic disease (anemia) known to cause this type of murmur. This is especially true when normal blood pressure in the arms and strong pusations in the femoral arteries are found to rule out coarctation of the aorta. Systolic murmurs which are not constant in all positions are also not significant as a rule.

Murmurs in diastole are always suspected as possible signs of

7. Quinn, R. W.: The Incidence of Rheumatic Fever and Heart Disease in School Children in Dublin, Georgia, with Some Epidemiological and Sociological Observations, Am. Heart Journal *32*:34 (August) 1946.

8. Quinn, R. W., Sung, J. L., and Quinn, J. P.: An Environmental and Sociological Study of Rheumatic Heart Disease, Am. Journ. Public Health *40*:1285 (October) 1950.

9. Messelhoff, C. R.: Functional Systolic Murmurs in Children, Am. Journ. Med. Sciences *217*:71 (January) 1949.

organic disease and demand careful diagnostic examination.

Within the limits set by the child himself, it is currently believed reasonable activity may be permitted the youngster with chronic heart disease, even in a physical education program. The important consideration is that the child have opportunity to rest when fatigue occurs. Competitive athletics do not allow for voluntary rest periods, and, with the possible exception of baseball, are not recommended for individuals with structural heart abnormalities.

I am concerned about discovery of the child with real heart disease. I am frequently interested in all those youths who are unnecessarily made to believe they have heart disease. Unwarranted restriction of activities leads to useless worry on the part of children and parents, beginnings of cardiac neurosis, and fears that the physician is withholding information. Could we not agree that only in obvious cases the diagnosis of heart disease should be made without the most complete investigation, including X-ray and electrocardiograms?

A pulse rate of more than 100 or a systolic blood pressure over 130 mm. Hg. should be checked again, preferably under less hectic conditions than usually exist when athletes are examined. The usual cause, emotional tension, is confirmed by moist palms, tremors, and general apprehension.

It is generally agreed that a normal heart cannot be "strained" or dilated beyond the physiological limit (10). There is some slight enlargement of the heart in athletes after training, but it is inconsequential compared to that seen in disease. When cardiovascular accidents have occurred in athletics, almost invariably the cause has been due to pre-existing conditions, which either could have been detected in a routine examination or were so obscure that no reasonable procedures would have demonstrated them.

There is a difference among healthy individuals, however, in their ability to recover after exercise. This is a capacity which can be improved by "conditioning." The examination of athletes is incomplete unless a test to determine their "recoverability" from hard exercise is used. There are various tests of cardiovascular function. The "step-test" of Gallagher and Brouha (11,

10. Cureton, T. K.: Physical Fitness Appraisal and Guidance, St. Louis, C. V. Mosby Co., 1947, pp. 309-332.

11. Gallagher, J. R. and Brouha, L.: A Simple Method of Evaluating Fitness in Boys: The Step Test, Yale Journ. of Biol. and Med. 15:769, 1942.

12) is simple and adequate. It imposes hard work on the heart and only those who have been approved after examination at rest should perform it. For high school youths the test consists in stepping on and off a platform 18 inches high 30 times a minute for four minutes. The heart rate is counted for periods of 30 seconds one, two, and three minutes after cessation of exercise. The recovery index is calculated as follows:

$$\frac{\text{duration of exercise in seconds} \times 100}{2 \times \text{sum of 3 pulse counts in recovery}}$$

The more fit individual has the higher index.

A low recovery index (65 or less) indicates need for conditioning, which is information a coach should have prior to the practice season. The step-test should be repeated during the conditioning process, and an individual who had initial low index and does not improve in training is not qualified for competition.

Examinations for hernia, hydrocele, and undescended testis are necessary, and require only brief comment. The existence of any type of hernia precludes athletic activity, although one might argue that a hernia would never be as vulnerable to injury as the head, face and joints. One could not justify certification for athletics on the basis of relative risks, however. Large hydroceles disqualify for strenuous exercise and contact activities, and an undescended testis which rests in the inguinal canal is obviously vulnerable. Incidentally, an adolescent boy who has an undescended testis is nearing the end of the period when treatment will benefit him.

Fractures, sprains, and dislocations comprise most of the injuries in athletics. Adolescents are especially suceptible because the epiphyses of their bones are not fused to the shaft and their muscles and ligaments are relatively weak. Special attention should thus be directed to the bones, joints, and muscles. Muscle atrophy and limitation of movement should be looked for as well as areas of tenderness around joints. One should observe posture while the subject is in motion, and the gait should be studied. One of the common crippling disorders of adolescence is slipping of the femoral epiphysis, which could be suspected only from an unexplained limp. Time spent in searching for these conditions could be spared from the traditional evaluation of ankle pronation, a

12. Gallagher, J. R. and Brouha, L.: Physical Fitness, its Evaluation and Significance, J.A.M.A. *125*:834 (July 22) 1944.

finding which appears to have little significance unless there are symptoms of foot strain.

Two things characterize competitive sports, in comparison with physical education classes. One feature is the demand for stamina and energy; the other is the frequency of accidents. While the playing field is an environment conductive to accidents, it probably is true there as well as in ordinary pursuits that all accidents do not "just happen." A small percentage of the public have far more than their share of accidents and the concept has developed that certain individuals, because of their personality make-up, are especially liable to accidents. It seems appropriate here to quote a recent description of the accident-prone personality, because he is found on athletic teams too. He is " . . . an impetuous person who converts immediately into action his momentary impulses without deliberation and planning. He harbors a deeply ingrained rebellion against persons in authority. At the same time he has a strict conscience which makes him feel guilty for the rebellion. In the unconsciously provoked accident he expresses his resentment and revenge, at the same time atoning for his rebellion by his injury ." (13)

It will not be easy to identify these accident-prone youths in a routine examination. Much information can be gained, however, by inquiring about accidents and then by looking for scars or other evidence of injury. A brief discussion about the events preceding the accident often reveals that an emotional upheaval of guilt, anger, humiliation, or resentment set the stage for the mishap. This is information a coach should have, for he can prevent many accidents by his relationships with that individual.

Weight and height measurements, urinalysis and a tuberculin test should be included in the examination of all adolescents and the athlete is no exception. Repeated weight determinations during participation in athletics is one valid way to appraise the way an athlete reacts to strenuous exertion.

Physical fitness is a hollow phrase when an individual is not immune to preventable diseases, and deficiencies in this respect should be discovered in the history. Active immunization against tetanus is especially advisable because of the unusual exposure to injury.

Qualification to participate in athletics does not depend solely on a sound body. There is a factor of *readiness* which applies especially to adolescents. All aspects of growth and development

13. Alexander, F.: Public Health Reports, *64*:357 (March 25) 1949.

never proceed at the same rate, but in the spurt which precedes and takes place in puberty they are completely disorganiezd. Chronological age is not a reliable index of physiological development. The former is the basis for classification in schools and the latter is the essence of grouping in athletics. Just as the "step-test" is a means of determining readiness for strenuous exercise, so we would like to have a tool for appraising readiness to participate in competition with others of the same age. There is no similarly reliable measure of physiological maturity, however.

Probably the most useful information can be gained from an appraisal of the individual's progress in development of secondary sex characteristics. There is an intimate relationship between sexual and skeletal maturation. For girls, the menarche is a milestone of physiologic development which would permit logical grouping. A parallel stage of development in boys (chronologically about two years later) is the production of motile spermatozoa. Clinically, this is difficult to determine, but fortunately there is correlation between sexual maturity and the type of pubic hair. Pubic hair successively goes through stages when it is fine and straight, later coarse and straight, and, finally, curly. This last stage correlates quite closely with the menarche and its equivalent in boys. Since most varsity athletes in high school have reached this stage, which occurs in boys at about 15 years, it has been our practice to use this sign as a criterion for participation in high school athletics.

The value of separating the more immature from the mature individuals lies in the fact that in the pre-pubertal stage, adolescents are appreciably weaker than post-pubertal colleagues of the same age. The pre-pubertal ones are having sizable demands made on their metabolism by the rapid growth they are experiencing and their stage of bone devolpment makes them susceptible to epiphyseal injury. The closure of epiphyses coincides more closely with physiologic age than with chronologic years.

The Wetzel Grid does not, in our experience, predict readiness for athletics. X-rays of epiphyseal development in the wrist and hand aid in appraising maturation (14), but this is not a practical procedure for routine use. They would be most helpful when there is marked discrepancy between physique and development.

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14. Greulich, W. W. and Pyle, S. I.: Radiographic Atlas of Skeletal Development of the Hand and Wrist, Stanford University Press, Stanford, California, 1950.

The evaluation of athletes should also take into consideration a youth's social and emotional maturity as an index of readiness. This can hardly be determined by medical examination, although there have been occasions when I have been influenced by a student's behavior and reactions to inquire from others about his emotional and social development. Obviously persistent tachycardia, elevated blood pressure, sweating or flushing signify anxiety and tension. This, of course, is a field where advice from teachers, who have known the boy or girl well, can add a great deal to the evaluation. In schools where there is a guidance counsellor or a psychologist one would like to have the results of a screening test, such as the California Test of Personality[15] to assist in evaluation.

Health and physical fitness are not static conditions, and health appraisal is really a continuous procedure. Favorable findings on examination at the beginning of a season are no guarantee of continuous fitness. The coach in athletics is in the same strategic position to observe departures from health as is the classroom teacher in the school's health program. He should appreciate his responsibility in detecting changes in appearance and behavior, and also he should have a medical advisor to whom he can refer his players when a health problem is suspected.

The physician's function is not discharged by the pre-training examination. Every illness, injury, and referral by the coach require a re-examination and re-evaluation. It is particularly important to keep in mind that recovery from illness or injury is not sufficient for return to competition. There is the important factor of "condition" or ability to recover from strenuous activity, which had to be developed in the first place and usually is lost when exercise is curtailed. Condition is not a requirement for becoming a member of the squad, but it is demanded by competition.

Summary

1. The principles of careful health appraisal, health teaching, follow-through to diagnosis or treatment, and continuing observation of a youth's health status apply to the athlete just as to any other pupil in school. Health supervision of athletes should be a part of the school's health program.

2. The athlete has a special requirement of "recoverability"

15. Thorpe, L. P., Clark, W. W., and Tiegs, E. W.: California Test of Personality, California Test Bureau, Los Angeles, 1939, 1942.

from violent exercise ("condition") which imposes need for additional tests of bodily function.

3. The physician who examines athletes should understand adolescents and their needs. He should be aware that the individuality of growth cannot be measured by chronological age. He should also make a "job analysis" of competitive sports to qualify him to recommend activities.

4. Unwarranted restrictions on activity, based on unconfirmed suspicions of impaired health, may seriously harm a youth's personality by planting fears and feelings of inferiority. Accurate diagnosis, not usually obtainable in a school, is as important to the child who turns out to be healthy as it is to the one who actually needs medical supervision.

5. All round maturation, equivalent to that of his colleagues, should be required of a youth for participation in competitive sports.

6. Health examination and evaluation of athletes are not limited to the pre-training appraisal but continue throughout the season. Evaluation is a cooperative undertaking in which the coach and teachers assist physicians in determining fitness and readiness for athletics.

* * * * *

Dental Caries, — A Stockholm, Sweden, medical journal reported in April, 1950, a study of dental caries, before, during, and after World War II. The study covered several Scandanavian areas and showed a decline of caries during the war and a rise in the autumn of 1947, coincident with increased consumption of the easily fermentable carbohydrates. Calcium supply remained adequate throughout the war and the rustic diet of wartime cleansed the teeth better. The rates of dental decay decreased more in rural areas than in urban areas during the war. From Bulletin to School Nurses, Denver, Colo.

* * * * *

World Health Organization,—The World Health Organization has just published three more committee reports:

(1) Expert Committee on Health Statistics. (No. 25)
(2) Expert Committee on Antibiotics. (No. 26)
(3) Expert Group on Pre-maturity. (No. 27)

SEX EDUCATION IN THE SCHOOLS*

HELEN MANLEY
Director of Health, Physical Education and Safety
University City, Missouri

Never perhaps in our memory is a straight look at life, a belief in humanity, and a faith for living more essential than today. Our hope for permanent peace is being constantly clouded by our fear of war. The problem of building into our American people a clear understanding of human inter-relations, and establishing high standards of social behavior is paramount. This clearly involves an understanding of the family and a straightforward look on one of the most powerful phases of human relations: namely, Sex.

Too often, even now, that word brings a hush and a feeling of rigidity and inhibition. Yet we are living in a biological world in which sex plays the leading role in creation, parenthood, love, marriage, and all the very best things in life, and on the other hand it is involved in crime, disease, mental breakdowns and the worst phases of our civilization. Inhibitions handed down to us for centuries have prevented a normalcy in handling this subject. Covering our heads as an ostrich has seemed the easy way when children ask questions. The blushing, confusion, and even chastisement which the youngster occasions when he handles his genitals, but not when he plays with his toes, has caused some children to grow up with this same feeling of shame at the word sex. It is apparent therefore that sex education needs to start in the home soon after the baby arrives. Parents will have no alternative on whether or not they give sex education because these young children acquire information and attitudes from the parents' feelings or inhibitions if not through their explanations.

When the child enters school, the schools have the opportunity of assisting the home in helping the child to assume the responsibilities of living in a society which is made up of individuals, of groups, and of those intimate groups called families. This definitely does not mean that the school takes over the job of Sex education, but that it supplements the home in giving answers to the boy or girl at the time he asks the question. In certain instances, too, the child has no family or is not communicative with his parents on these problems, yet he wants and needs his

*Presented at the Annual Meeting of the American School Health Association, St. Louis, Missouri, October 30, 1950.

questions answered. At the upper age levels, when the boys and girls are ready and able to understand very accurate scientific information, it sometimes happens that the parents feel inadequately prepared to give these facts accurately. Adolescent boys and girls today have had many educative experiences. They have information through many sources such as travel, radio, and television, and are living in the scientific "air and atom" age. They need and demand scientific answers, and the school should meet this need. At school the information can also be given objectively and without emotional block, for the teacher is interested in all the boys and girls equally, and his answers to their questions will not be colored by a strong emotional interest in a specific child. It is difficult for parents always to do this and to react objectively in matters pertaining to their own child.

The teacher of the young child takes him with his good, bad, or lack of sex information, satisfies his curiosity and relieves any of his anxieties on this subject. The sex education at these early grades will take no specific form. There are certain routines in school which are strongly connected with the pre-school sex education. The use of the toilet involves education. The child needs to take care of himself, and acquires, if he has not achieved this in the home, habits of neatness, sanitation, disposal, and courtesy to others in the bathrooms. He is aware of the difference in the girls' and boys' toilets, and his curiosity should be satisfied by teaching him the location and use of the toilet, as to the stools and urinals, and the flushing of these.

Children in these early years are apt to be having baby sisters and brothers. This will be a natural opportunity to supplement the home teaching on acceptable terminology of babyish terms. Children who have no brothers and sisters and those in families of one sex will be aware of sex differences when they enter school, and the normal curiosity on this should be satisfied and the differences explained. This interest is no indication of any sex tendency, but a normal curiosity. Raising animals in the classroom, visiting the farm, pictures of the life of people in other countries and children's questions, will bring occasions for further information. Teachers answer children when the question is asked, whether it is about South America or sex. This area of information is treated as any other in the curriculum.

Health instruction is stressed at all age levels, but in the fourth and fifth grades, children are ready for some scientific and direct teaching in physiology, and are interested in the "workings"

of the body. In the University City schools the unit on Sex Education is pointed up in the sixth grade, after the children have had some background of good health information in the fourth and fifth grades. In the sixth grade in this school system, using the six-three-three plan, the boys and girls feel that they have reached a transitional point in their lives—they are about to leave elementary school and enter Junior High; they are grown up now. It is also the chronological age for the use of bad words, and the beginning of boy-girl interests and mixed parties with the kissing games. Social behavior, human relations, and sex education fit in naturally in a unit on Group Living. The parents have been brought into the teaching project. As a preliminary, all the parents of the sixth grade children in the specific elementary school are invited to a meeting where the plans are discussed and the Human Growth film is shown. They ask questions and are asked to express their views on the program.

In this particular system the parents always voted, one hundred per cent of those who attended the meeting, that the plans be followed. Their comments have been as follows:

1. Can we know when this will be done so we can follow up at home?
2. This will be a fine opening for us to give the children more information.

There have been questions too on such things —

1. The advisability of having boys and girls together.
2. What questions do the children ask, and how are they answered?

The question of not wanting any child to have this unit has never been raised, but the answer in that case would be, that the child might study another area of Health.

After the meeting of the parents, the unit is taught as any other phase of the curriculum, i.e., on a classroom basis. The children discuss growing up and their problems, then see the film and ask any of their questions; some typical ones that came out of this unit follow:

1. How many egg-cells are you born with?
2. If two sperms hit the egg at the same time, what happens?
3. Does the mother put the father sperm into the baby to make a boy?
4. What causes twins?
5. Why does a woman have to tell her husband they are going to have a baby?

6. Can the doctor tell if it will be a boy or girl?
7. Do babies have the same kind of cellophane wrappings as my puppy?

In the seventh and eighth grades in University City, the areas of sex education and family life are taught as occasions arise in such courses as General Science, Orientation and Guidance and Home Problems. Then in the ninth grade a definite unit of instruction is again given, to point up more definitely this area of instruction. In this grade the child again feels grown-up and eager to be adult since he is soon to enter High School. On the surface he seems very sure of himself, yet underneath he is very insecure and needs information very badly. He wants to understand social behavior, so a unit on Social Living is very interesting to him. Such problems as social etiquette, dating, parent-student problems, and personal attractiveness will be solved as the whole area of growing up is discussed. The information on the force of sex, in maturing and in physical or emotional changes would be included. Areas such as the following offer opportunities for much discussion:

1. The responsibilities of growing up and going into Senior High School
2. The chief cause of growth which would include the functions of the glands
3. The importance of growth
4. The changes in the boy and girl due to functions of these glands
5. The physiology of the sex glands
   (a) Boy — seminal emissions
   (b) Girl — menstruation
6. Reproduction
7. Boy-Girl Relations
   (a) Understanding each other
   (b) Dating
8. Ideals for living in a world of today

This unit of growing up has been approached this way. It has been in this school system in the Physical Education Department and taught by Physical Education teachers. Since the boys and girls are separated in Physical Education, they are also separated in Sex Education. They are told when the unit is to be given and invited to tell their parents, and if they wish, to bring them. At the first meeting then, they are reminded that they might have a substitute unit if they wish (No one in the last

fifteen years has chosen a substitute). Also, they are asked to give an anonymous evaluation at the end of the course. These are summarized and the suggestions followed the next year as far as possible. The papers are kept too, in case any parents wish to see them. A few parents, perhaps one or two per class, came the first few years, but the course is now established and evidently approved. There have been no parents for about eight years. Some of the boys and girls have asked that this unit be taught co-educationally. This is being considered, but the teachers and administrative group felt that since it is set up in the Physical Education Department, it would appear as more unusual than usual to have the boys and girls together. The objective is to put it in the curriculum in a natural way. The following questions are usual at this age:

1. If the male has RH blood and the female hasn't, can they have children? Why?
2. Do twins have the same type of blood?
3. What is a miscarriage?
4. What are test-tube babies?
5. Are humans born with as many instincts as animals?
6. Does a boy have to have intercourse at 15 or 16? Can he go somewhere?

In the high school, youth has deep in his conscious or subconscious thinking, his role in family life. Problems which besiege him include these:

1. How to get along with his family — mother preaches, father scolds, and the small fry get in his hair.
2. How to be independent socially and economically; how to get money to spend; how to get loose from the adults.
3. What will I do when I am an adult; what kind of a vocation is best for me? How can I get a job? Should I follow Dad's business?
4. How does my body function? Why am I growing so much or so little — will I stop? Will I mature properly so I can marry and have children?
5. How will I meet a boy or girl? How do I get dates? What kind of a person will I marry? How can I be a good husband or wife? Do I want to have children? What is involved? Are pre-marital sex relations necessary or harmful?

These are the problems which face the high school boy and girl. Helping him to get the answers to these is the concern of

the parents and teachers. The parents are demonstrating "Family Life" every day, and the power of demonstration is mighty. The knowledge Johnny and Mary acquire of a family by living in one, is the greatest factor in influencing the kind of family they will establish. By example and by helping the children at the various growth stages, to mature emotionally as well as physically and mentally, the parents will build into these children a strong belief in the integrity of family life. All homes are not worthy of emulation, and some children have no family life.

The school has a distinct obligation in supplementing the home or substituting for it in such cases. This may be done in one or several of many areas of instruction in the high school curriculum. It is of little consequence in what course it is taught, but the important factors are — how and by whom it is taught. A special course or a series of lectures by a person outside the school staff is not generally advised, as this does the very thing to be avoided; namely, setting this area of information apart as something strange and different. The established courses (if they are required so that no one will be omitted) such as Biology, Family Life, Orientation and Guidance, Sociology, and Health seem natural media in which to include a unit on Family Living and Sex Education. The youth of America is ready for positive, straight-forward instruction. The teacher, therefore, is very important; he may be either sex, but must be one who is emotionally mature himself, who understands boys and girls and believes in them, who meets all questions head-on, eyes up, and without embarrassment, and also who has sufficient background in Physiology and Psychology to give factual answers.

In University City, this unit is placed in a required semester course in Health. The only way it is set apart from any other unit in Health is the fact that the students are, as in the ninth grade, told when the unit will be taught, and given the privilege of substituting another area. The course is in its twenty-second year, and only five have chosen a substitute area, and they did so in the first two or three years that the course was given. The contents of the course have changed indeed, with the maturity of the boys and girls. The ninth grade students are as far advanced in their information and interest now as the twelfth was at the start of this unit.

To meet the interests of the high school boy and girl, areas of discussion in a family education unit would include:

1. Attitude toward Sex — a philosophy which would empha-

size its importance in fine living, and its beauty versus any vulgarity.

2. Adolescence
   (a) Meaning of the word and connotations
   (b) Growth and changes
3. Boy-Girl Relations
   (a) Dating — how to get dates, and what to do on them
   (b) Petting
   (c) Promiscuity — its causes and results such as illegitimacy, prostitution, and venereal diseases
4. Continuation of Life
   (a) Part played by heredity
   (b) Creation of new life — organs and methods of reproduction
5. Marriage and a family
6. Ideals for living in the world today

Some reactions of students who have had this unit, may be interesting:

"During this course I have learned many things about sex, that I have wanted to know completely or know more about. I have especially enjoyed this course because of the way I have changed many of my viewpoints. Before this, and even before the course in the ninth grade, I was a little afraid of sex or anything to do with it. I was afraid because I didn't clearly realize and understand a lot of things, but I think now that I have most of the things pretty clearly in mind."

"I like the way the subject was brought right to the point. The instructor didn't dress it up with a lot of words and glance over it, but came right to the point. All my questions were thoroughly answered."

"I like the idea of having sex education in schools because you find out how other people feel, and the attitude toward the course is impersonal so that there is no cause for embarrassment. By having this course in school it gives people a chance to get a good outlook on life. Some parents don't talk to their children and if this is the case, they get their sex education in other ways —ways which may not be right."

"There are many boys and girls who are not able to talk to their parents about sex and, therefore, grow up thinking that sex is very ugly. By giving these talks you are able to straighten out these people and show them that sex is something beautiful and very normal in our everyday living. There are also some like

myself, who learned things about sex which are not true. By hearing the talks I was helped a great deal to help me straighten out these wrong beliefs. I think all the topics discussed were covered thoroughly and very well stated."

Family Life and Sex Education is a continuous educational process. The baby today, who will establish a family two or three decades hence, is building his philosophy of that home and family through all his experiences from birth to that date. The kind of home and parents he has, his friends, his church, his doctor, his recreational experiences, and his school will be molded into his philosophy of family life. Each of us then, who touches the lives of children, has a responsibility for the kind of family life which will exist in our country tomorrow. Our youth today who is going out of homes and school to industry, to college, and even to war, needs a fortification stronger than mere facts and physical prowess—He needs an understanding of human relationships, the values of which will insure his emotional maturity and his ability to come through any experience unscathed. He needs, more than anything else, to face reality; to face and live today so there will be a tomorrow. We, as adults, may help him first by example, and then by seeing that he has the answers to all his questions so as to help him to know his part in building a better America by improving Family Life.

* * * * *

Hearing Aid for a Preschool Child.—Question: What is your opinion as to the use of an individual hearing aid by the preschool child, that is, a child under three years of age?

DR. MARCUS: The experience we have had at the rehabilitation unit speaks against the use of an individual hearing aid by a child under three years of age. Small children cannot be relied upon to handle an aid carefully. The aid bothers them considerably. They play hard, they fall down, they break the hearing aid frequently, and the instrument seems to be of little use to them. But more important, is the fact that children have to be made ready for an aid. It is essential that they be taught to use their residual hearing and to combine it with speech reading in order to build up a language background. After that, an individual hearing aid becomes useful for them. Somewhere around five years of age, I believe, should be considered the youngest age at which a child could wear an aid for all practical purposes. Auditory training units may, however, be used at a very early age.

From Hearing News, December, 1950, page 8.

HEALTH GUIDANCE THROUGH ATHLETICS AND PHYSICAL EDUCATION

WARREN R. JOHNSON
Associate Professor, University of Maryland

". . . schools, colleges, and teachers have but one function: to guide young people in living . . ."—John M. Brewer.

One of the very unfortunate things about our concept of education is that the teaching and learning of important things are ordinarily thought of as being confined to the classroom. Because of this rather deeply ingrained point of view we are often-times guilty of overlooking the *natural setting* in which a given kind of learning would readily take place. By habit we usually postpone and later attempt to accomplish this learning via the route of artificial motivations in the classroom.

One of the newer academic concepts in the field of health education is that of health guidance. Most teachers of health guidance tend to differentiate health guidance from health instruction, at least in part, on the basis of immediacy of needs; that is, generally speaking, in health instruction it is assumed that educators are capable of anticipating more or less distant needs of the students and providing information whereby the problematical needs may be met. Health guidance, on the other hand, focuses its attention upon helping youngsters to solve their *immediate* health problems. Obviously, a certain amount of overlapping between these two areas is inevitable.

The idea of *immediacy* of needs to be met usually forces health guidance efforts either along strictly individual lines or into the realm of group guidance, the latter having to do with working out on a social basis the immediate problems of a comparatively homogeneous group.

The thesis of the present discussion is that few school activities afford a natural setting for both individual and group guidance that can compare with those of athletics and physical education.

In athletics and physical education, we find human beings engaged in behavior that is consistent with their craving for full and integrated expression in both the physical and psychic spheres. The body is not tethered in a desk; its natural responses to environmental and psychic stimulation are not impeded. In a word, what Crile has referred to as our "obsolescent" or essentially primitive nervous system is not required to conform to the

dubious inhibitions and repressions imposed by "civilized" immobility. The spontaneous dance of joy and the shout of enthusiasm relieve and express the sportsman or athlete as they did his early ancestors. Neural and endocrine stimuli are not robbed of natural expression — to occasion mild or severe disturbed states in the personality.

At a comparatively early age youngsters tend to grow body and skills conscious. As they become active in sports, they are vitally curious as to what takes place within them when their performance improves; more specifically, they want to know about such things as muscle growth and the factors that govern strength, endurance and bodily conditioning. By way of illustration, boys want the *facts* on the influence of nocturnal emissions, masturbation and other sexual experiences upon physical efficiency; girls want to know how their sports activities should be modified during the menstrual period. Both want understanding —not dictation—in regard to nicotine, caffeine and the central depressants. They also want to know about such things as "athletes' heart," being "muscle bound," the influences of exercise upon cardivascular adjustments, principles of weight control, and efficient ways of handling their bodies in action. In a word, they want guidance, so that they can direct their own lives more effectively.

Granted, a certain amount of such material as was mentioned above is "covered" in some science and hygiene courses; but strangely enough these courses seem to overlook many of those considerations that are of greatest concern to the youngsters. As a matter of fact, the present writer has had pre-medical and biology major students on college gymnastic and wrestling teams whose knowledge of very personal and practical health subjects was no farther advanced than that of the other students.

The Latin term *in media res,* meaning "in the midst of things," is beautifully descriptive of teaching in the play situation. The ordinary classroom attempts to deal with life, or some remote aspect of it, in the abstract and almost in absentia. The teacher of sports is in the midst of vigorously interacting personalities. Natural problems which are generated by the situation are meaningful and important in terms of the situation; our knowledge of the functioning of the human mind suggests to us that it is in connection with this natural setting of problems that the problems are likely to be solved and learning to take place.

When young people observe the growth of the bodily effici-

ency that comes with athletic training, they rarely fail to be inquisitive regarding the internal adjustments that make improvement possible. Expanding ideas beyond the immediate situation, they are "ready" to comprehend the relationships that exist between a healthful mode of living and bodily efficiency. They can gain some idea as to the negative significance of disuse and pathology and the positive significance of health in terms of over all personality development. For people of understanding, mind and body are tools for the fullest living of life.

An illustration of the deep interest that young men take in their bodily adjustment for competition is recalled in connection with research on the emotional response of football players and wrestlers. One phase of a battery of tests involved taking blood specimens for blood sugar analysis. Throughout both sports seasons the respective college athletes permitted the present writer to obtain as many as six blood specimens prior to *each* contest of the season. These specimens were obtained by way of finger pricking and each had to yield exactly one-tenth c.c. of freely flowing blood.

Without coercion or payment of any kind, virtually all of the athletes voluntarily "stayed with" the research project. Their motivation was entirely a matter of wanting to know just how they were reacting in comparison with other men under stress. Furthermore, to the surprise of the writer, he was continually pressed by the athletes for explanations of the complex physiological and neurological adjustments that are characteristic of various kinds of emotional disturbances. They wanted to *know* about the cortical, thalamic, autonomic, and endocrine phenomena which caused their hearts to pound and their hands to sweat, etc., as they waited for contests to begin.

At the same time, the hygiene instructor reported no great interest in neuro-physiology on the part of his many athlete students.

Still another important factor favoring the practice of health guidance through coaching and teaching physical education is the traditional personality of these particular types of educators. From the pupil's point of view most school teachers appear to identify themselves with life in the abstract—or at best, in the distance. The teacher's typical *modus operandi* involves enforced physical inactivity and artifical motivations to learn.

Coaches and physical educators, on the other hand, have the advantage of being men and women of action, and as such they

share the world of youth. They possess the "know-how" that young people are seeking. And as for motivation: nature has provided man with an urge to play vigorously—and this urge is at its height in the early part of life. Is it any wonder, then, that young people turn quite naturally for guidance to these men and women who concern themselves with life as youth understands it? More than one guidance specialist has expressed envy at the *ex officio* attraction that educators "through the physical" have for young people.

Sometimes the objection is raised that there is simply not enough time on the sports field to convert athletics into group guidance. It should be borne in mind, however, that it is not the argument of this article that extraneous material should be squeezed into the already time-starved sports and athletic program. The point is that when the time is ripe and a health need exists, the coach and physical educator should be prepared to meet the need. In other words, the material is not extraneous at all; in point of fact, it is part and parcel of the physical educative process. With the advantages of high natural motivation and "readiness," more health concepts can be learned in a few minutes on the sports field than would otherwise be possible in much greater periods of time in the classroom.

It is probably not too difficult a task for coaches and physical educators to prepare themselves to handle this kind of guidance on the physiological level, particularly if they start on a modest scale. Professional preparation *should* guarantee that. A broader concept of health, however, necessarily brings us to a consideration of opportunities for guidance in mental health through sports activities. Here again we see that life on a highly functional level involving interacting and cooperating human beings furnishes the kind of situation best adapted to promote learning and sound practice conducive to mental health. Such a promising situation is available on every playfield in America. The skills of mature interpersonal relationships can be taught and practiced wherever there is a teacher of play who has educational vision which includes but goes beyond sports skills and tactics.

Of course, the concern of any young athlete in action is with the action of the immediate situation. On the other hand, as people who are "educating through the physical," we must constantly ask ourselves: "As a result of the experience that I am directing, are these young human beings becoming better prepared to make wise choices under their own direction, and to live creatively in

a social world? In a word, are they becoming better qualified to live well?"

We can probably increase the likelihood that such will be the case if we study the possibilities of individual and group guidance in health through athletics and physical education.

Foot Problems, — The first article in this month's issue of the Rocky Mountain Medical Journal discussed foot problems in young children. It stressed that many flat feet in children are normal. The newborn infant's normal foot is flat. A mild inversion of the foot when beginning to walk, commonly known as "pigeon toes" and the absence of structural deformity should be regarded as normal.. The foot with a very high arch is more often associated with pain and disability than in the simple flat foot. Children may go barefooted with benefit either in sand, grass, or well carpeted room. Pavements are not good surfaces for a child to play on unless the feet have shoes to reinforce them. Tennis shoes are all right for an hour or two each day, and gym shoes for gymnasium routine. If there is a real foot problem, it can be dealt with by adequate protection of the arch with orthopedic oxfords. The average painless, flexible flat foot without marked ankle roll or eversion, merely needs a good pair of oxford shoes and opportunity of complete freedom to exercise the muscles through normal play activity. Both foot exercise and high-top shoes are said to be of little, if any value in strengthening the muscles of the foot.* From Bulletin to School Nurses, Denver, Colo.

* Such good advice is much more valuable than so much effort spent on "Corrective" posture exercises. C. H. K.

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MEETING

American Association for Health, Physical Education and Recreation at Detroit, Michigan, April 14-20, 1951.

"CITATION"

For the William A. Howe Honor Award

VLADIMIR KONSTANTINE VOLK

Tonight the American School Health Association honors itself as well as the recipient, through bestowal of its highest award to a soft spoken humanitarian. He is listed in Who's Who in the Midwest as a physician, but is known better in his adopted State of Michigan as an outstanding public health administrator and civic leader.

Born February 19, 1897, in the city Rostov-on-Don, Russia, he entered the Russian Imperial Army in July, 1915, following graduation from Rostov - on - Don Boy's Gymnasium. Twice wounded in World War 1, he received the Cross of St. George Award for bravery in action. In 1916 he was admitted to the Warsaw University, School of Medicine, where he remained until 1920. Coming to the United States in 1921, he received the degrees of Doctor of Medicine from the College of Physicians and Surgeons, Boston, in 1926 and of Doctor of Public Health from Bellevue Hospital Medical School, New York University, in 1927.

Truly Dr. Vladimir K. Volk has pioneered in Michigan's public and school health work.

He served as Assistant Director of the Pontiac City Health Department in 1926 and as Deputy Commissioner, Oakland County Health Department from 1927 to 1935. In the latter position, he was instrumental in organizing the first county health department in Michigan. In 1936 he became Director of the Saginaw County Health Department, a position he still occupies.

Dr. Volk has also served as Consultant Epidemiologist and Bacteriologist, Oakland County Tuberculosis Sanitorium, 1927 to 1930; Associate Medical Director, Oakland County Contagious Hospital, 1927 to 1935; and as Medical Superintendent, Saginaw Tuberculosis and Contagious Hospital from 1936 to date.

Blessed with a rugged constitution and a capacity and willingness to work beyond normal limitations, Dr. Volk has found time to make significant contributions to medical research and literature. Among his scientific contributions have been the following:

1. "Clinical and Laboratory Observations on the Effect of Gentian Violet on Diphtheria Bacilli" (Submitted as a

thesis to the New York University in partial fulfillment for the degree of Doctor of Public Health).

2. "Studies of the Effects of Tonsillectomies" (Presented at the Annual Meeting, American Public Health Association in 1929 and published in the American Journal of Public Health, May, 1930).
3. "Diphtheria Immunization by Three and Four Injections of Toxin-Antitoxin" (Published in the American Journal of Public Health, August 1931).
4. "Diphtheria Immunization by One Injection" (Published in the American Journal of Public Health, April, 1935).
5. "Diphtheria Immunization with Fluid Toxoid and Alum Precipitated Toxoid" (Published in the American Journal of Public Health, March, 1940).
6. "Reimmunization Against Diphtheria of Previously Immunized Children" (Presented at the Annual Meeting, American Public Health Association, October, 1941, and published in the American Journal of Public Health, July, 1942).
7. "Comparative Speed of Response of Previously Immunized Children to Fluid and Alum-Precipitated Diphtheria Toxoid" (Published in the American Journal of Public Health, May, 1943).
8. "Appraisal of School Health Services" (Assisted by collaborators and published in the Journal of School Health, January, 1948).
9. "Observations on the Safety of Multiple Antigen Preparations" (Presented at the Annual Meeting, American Public Health Association, 1946, and published in the American Journal of Hygiene, January, 1948).
10. "Observations on the Safety and Effectiveness of Multiple Antigen Prepartions in a Group of Free-living Children" (Published in the American Journal of Public Health, October, 1949).

Five other scientific papers by Dr. Volk are in process of preparation.

Dr. Vladimir K. Volk has given generously of his time and effort to further the programs of many worthy professional organizations. He is a

1. Fellow and Life Member — American Public Health Association.
2. Member of the Diphtheria Immunization Committee,

American Public Health Association—its Secretary from 1936 to 1941.

3. Member of the Multiple Immunization Committee of the American Public Health Association.
4. Fellow—American School Health Association. He has served on its Governing Council from 1930 to 1944 with the exception of two years, (1941 and 1942), when he served as Vice-President. He was Chairman of the Membership and Fellowship Committee from 1936 to 1949. First Vice President, 1945 to 1949, and in 1950 again a member of the Governing Council.
5. Fellow — American Medical Association.
6. Member—American Association for the Advancement of Science, (by invitation).
7. Member — New York Academy of Science, (by invitation).
8. Member — Michigan Health Officers Association,—its Secretary from 1944 to 1948, its Vice President in 1949, and its President in 1950.
9. He was instrumental in the organization of and is a Member, Michigan School Health Association, — its Secretary from 1934 to 1941, its President in 1942, and a member of its Board of Directors for many years.
10. Member—Michigan State Medical Society.
11. Member—Oakland County Public Health Association, — its Secretary from 1928 to 1934 and its President in 1935.
12. Member — Saginaw County Public Health Association and its President in 1945.
13. Member — Saginaw County Medical Society.

Special honors received by Dr. Volk are in keeping with the varied capabilities of the man.

His Saginaw County Health Department received the Health Achievement Awards of the American Public Health Association and the United States Chamber of Commerce for the years 1936 through 1943. The awards were discontinued in 1944.

In 1946 he was cited by the Salvation Army of Saginaw as one of "Five Saginaw Citizens of the Year" for his community services.

He represented former Governor Harry Kelly of Michigan at the National Research Council Conference in Washington, D. C., in November, 1943, a conference called to explore the subject of the "Development and Improvement of Artificial Limbs."

Appointed American Delegate by the State Department in Washington, he attended the International Congress on School Hygiene in Paris, France, in June of 1947.

In May, 1950, he was appointed United States Specialist in Public Health by the State Department and assigned to the American Zone of Germany to assist the Public Health Division of the Office of High Commissioner, from which job he has just returned.

He is a diplomat of the American Board of Public Health.

He is listed in the Sixth (1935), Seventh (1944), and Eighth (1949) Editions of the American Men of Science.

These are lasting monuments to leadership, a leadership founded upon ability, courage, love of humanity, and a tenacity of purpose which admits of no permanent defeat.

To know the man as we have known him for a period of over twenty years is an experience rich in the memory of one whose impelling drive has been to make the world a better place in which our boys and girls may live and fulfill their destiny.

I am happy and honored to present, on behalf of the American School Health Association, the name of Vladimir Konstantine Volk, M.D., Dr.P.H., physician, administrator, civic leader, humanitarian, for the William A. Howe Honor Award.

KENNETH R. GIBSON, D.D.S., M.S.P.H.

Mr. President, my friend Kenneth Gibson,
Ladies and Gentlemen:

To be one of the recipients of the William Howe Award is a cherished and secret ambition of many school health workers. It fills my heart with pride and a sense of humility because my modest contributions, over the years, in the field of school health, have been a result of the combined and cooperative efforts of many of my co-workers. To them belongs a share in this award. I sincerely wish to thank the Committee for this distinguished honor, which also symbolizes the friendship and respect I have from many workers in the school health field.

Thank you for the high privilege of receiving this honor. I need not assure you that I shall always cherish it. I will keep on doing my small part toward the advancement of school health and to further the best interests of the American School Health Association. I thank you again.

V. K. VOLK, M.D., Dr.P.H.

NEED FOR IMMUNIZATION**

By LT. COL. W. R. DEFOREST

Chief, Medical Affairs and Public Welfare Branch

and

V. K. VOLK, M.D.

Public Health Adviser, Education and Cultural Relations Division, Office of Public Affairs, HICOG.

Obviously many thousands of cases of communicable diseases occur which could be prevented, and many hundreds of lives could be spared, if the methods which already have proved highly effective in the United States were widely applied in Germany. The disappointing fact is that German physicians are reluctant to use the multiple immunization agents which are widely accepted in many parts of the world.

A detailed analysis as to why this is so is impossible in a short report, but some of the factors are presented here to give a picture of what difficulties lie ahead for the Medical Affairs and Public Welfare Branch and the German medical and public health profession.

It must be remembered that large segments of the medical profession before, during and after the war were aloof from contact with medical literature of other countries, particularly of the United States. Thus, they were deprived of knowledge of newer trends and developments in the field of prevention of certain communicable diseases.

Although communicable diseases statistics leave no doubt that various immunization procedures represent a new day in the art of preventive medical science, the German medical and public health professions are unwilling to accept these findings until they have made their own investigations. Unfortunately every doctor here seems to trust only his own figures. The result is that the immunization program in Germany is at very low ebb and a great many cases develop with many needless deaths.

The attitude that the work of scientists beyond the German border needs to be checked first, is unfortunate because duplication of some of the studies requires years of observation. Such a

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*Analysis of Some of the Problems Facing Medical Affairs and Public Welfare Branch in Connection with Communicable Disease Control.

**Reproduced from Information Bulletin, November, 1950. This presentation is made as Dr. Volk's reply to the citation.

delay, at this time, in our opinion, is not justified. Thus, not enough is done in the field of immunization because of lack of knowledge, and without knowledge there is no incentive to promote immunization programs.

Some particular objections to whooping cough vaccination are very hard to dispel. They are based upon attitudes rather than objective evidence—current publicity that whooping cough vaccination *per se* may be a contributing factor in the development of poliomyelities (entirely unfounded) helped to defer the immunization program against whooping cough.

Diphtheria immunization is compulsory in some parts of Germany. In those sections, the health department officials apparently do not feel motivation for health educational efforts to promote diphtheria immunization. They fail to realize that health education will interpret to the public the many physical and economic advantages, and will create in people the desire for this and other public health services, and particularly will create a demand for other immunization services for certain communicable diseases just as dangerous and deadly as diphtheria.

Lack of educational stimulus to the public reflects the apparent apathy of the newspapers on matters of public health. While in the United States the newspaper space for public health is very much appreciated by every thoughtful and progressive health officer, it is not considered to be a good approach in Germany.

The immunization against tetanus is objected to because "there are not enough deaths" to warrant such efforts. We are fully convinced that immunization in itself is completely harmless, and if it saves only a few people, it is still worth the effort, since the disease, once established, is highly fatal. Of course, there are other factors, such as that injured persons, previously immunized, need not receive tetanus antitoxin but, instead, a small injection of tetanus toxid. The disadvantage is that tetanus antitoxin is apt to produce sensitization which may be disastrous to a patient who may later need some other life-saving serum, but who cannot receive it because of the fear of anaphylactic shock. Not much consideration is given to the trifling injuries which may lead to tetanus, and may be masked as cases of meningitis.

Some economic factors which, in our opinion, are of great importance are these:

The present medical care organization definitely handicaps the program because the medical insurance boards will not accept

immunization as compensable medical service. It means the people must pay for services, which they are reluctant to do after generations of not paying for any other medical service. This is especially true when one remembers there is little or no educational stimulus to make people want and demand the preventive service.

The other aspect is that immunization is provided by health department physicians. If the practice of immunization is widespread we know it will reduce the incidence of certain diseases tremendously and will greatly reduce the number of deaths. The bold facts are that immunization will reduce the sickness rate and inasmuch as the physicians are working on fee schedule this will greatly curtail their medical income, by reducing the number of patient visits.

This is not stated as critical of German physicians, because the doctors, as everyone else, must have security, and while none intentionally will withhold the preventive measures, the facts indicate the situation is not such that it would warrant encouragement for the use of multiple antigens for immunization by private physicians.

What then is the answer to the problem in its many complexities?

There is no solution that is applicable to all parts of Germany, but much can be done by encouraging realization by the medical profession that great progress has been made in the control of communicable diseases and by imparting this information to the doctors in every possible way, such as by:

1. Direct contact with medical groups.
2. Encouraging publication of authentic literature in German medical publications.
3. Encouragement of health education and creating interest in general newspapers in public health advances.
4. Providing on demonstration basis of multiple immunization preparations through use of U. S. funds until such a time when the profession and population will be convinced of the effectiveness of multiple immunization.
5. Teaching of health personnel, physicians and nurses in modern public health practices, by sending some promising personalities to the United States. These are all expensive items and will require years to achieve.

However, much is already being done and the following is the example of what has been accomplished. The following is but a

brief review of the efforts of the Medical Affairs and Public Welfare Branch of HICOG and consultants:

1. Regional health advisors and public health specialists visit health officers on the state and district level.

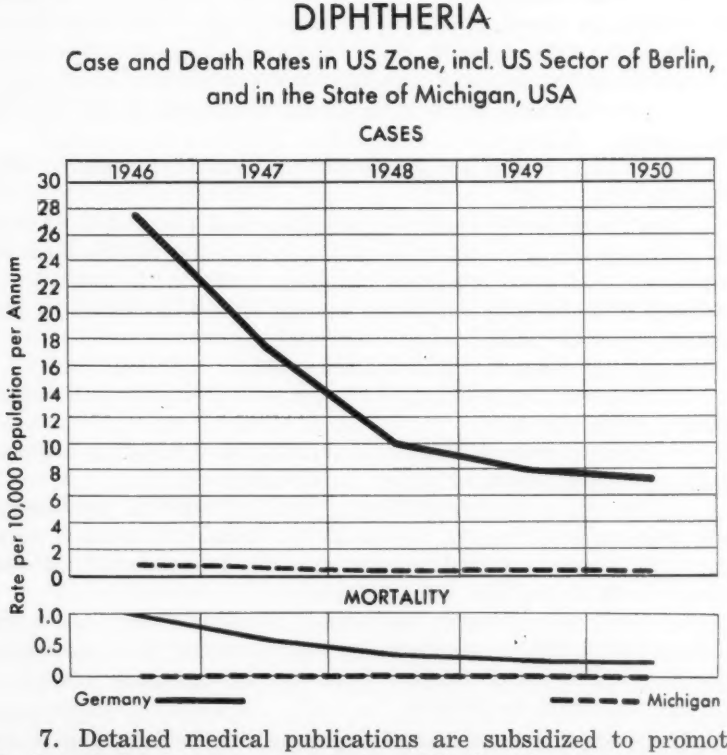
2. Deans of medical schools are contacted and aid solicited in imparting the newer knowledge to the younger doctors and medical students.

3. Pediatric professors are contacted for the same purpose.

4. Talks are given before the medical groups.

5. Health commissioners are encouraged to promote lay educational programs.

6. Health officers are urged to get newspapers behind their program and to help make German people want the health protection.



7. Detailed medical publications are subsidized to promote the knowledge in newer trends in public health and the medical field.

At present a project is being developed to provide free immunization to 25,000 infants and pre-school children as a demonstration project, in the hope that once the medical profession becomes convinced it will encourage acceptance of the extended immunization by German health officers.

Finally, influence is being brought to bear upon hospital insurance boards to accept immunization as compensable medical service and to make them aware that it is much cheaper than the care of those who are sick from preventable diseases. In short, we are attempting to sell to the insurance boards and to the medical and public health profession the idea that an ounce of prevention is worth a pound of cure.

* * * * *

Vision,—The ideal time for fitting children with sub-normal vision with glasses is between the ages of six months and one year, according to a noted eye specialist writing in the current issue of The Crippled Child Magazine. Published by the National Society for Crippled Children and Adults, 11 S. LaSalle St., Chicago, Ill.

The ophthalmologist can determine vision defects by means of a light when the patient is still a baby, and can prescribe proper glasses if they are needed, according to Dr. George P. Guibor, member of the staff of Children's Memorial, St. Luke's, and Illinois Children's Hospital School, all in Chicago.

In the case of crossed eyes, glasses and other non-surgical treatment may improve the eyes so that glasses may eventually be put aside at least part of the time. Other forms of treatment recommended include eye drops, covering the better eye and exercises.

He cited a dramatic case of a six-months-old girl whose vision was less than 10 per cent of normal. Following treatment begun at that age, she progressed until at the age of seven she had 20/20, or perfect vision, and her tendency to crossed eyes had almost disappeared.

Pointing out that crossed eyes are present in more than half of the persons who suffer from cerebral palsy, he advanced the theory that crossed eyes might result from the same causes as cerebral palsy—injury to or lack of development of the areas of the brain governing motor co-ordination.

Proper glasses and other non-surgical procedures have in many cases improved general co-ordination of persons with cerebral palsy.

THE PRESIDENT, 1950 - 1951

GERTRUDE E. CROMWELL, R.N., B.S., M.S., President, American School Health Association.

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School Nursing, Bath, New York, 1927-30
1938
Director, Child Health, Denver Tuberculosis Society, 1930-32
School Nurse, New Paltz Teachers' College, 1932-33
School Nurse, Corning, New York, 1933-34
Assistant Dean of Women and Instructor in School Health, West Chester Teachers' College, 1934-36
Supervisor, Bureau of Health Education and School Nursing, Des Moines, Iowa, Public Schools, 1936-48
Presently—Supervisor, School Nursing, Denver Public Schools, Denver, Colorado, 1948 —

Professional Affiliations:
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Offices Held:
1. Vice--President, A.S.H.A., 1942 and '49
2. Member of Governing Council A.S.H.A. since 1943
3. Vice-Chairman, School Nursing Section, N.O.P.H.N., 1940
4. Consultant to Red Cross on Home Nursing in the Schools, Des Moines, Iowa, 1943-44
5. Assistant Editor, Journal of School Health
6. Editorial Board of Journal of Health, Physical Education, and Recreation.
7. Consultant to California Branch, A.S.H.A.

Author of:
Health of the School Child, 1946, Saunders Co., Philadelphia
Editor, School Edition, Home Nursing, American Red Cross
Numerous articles on school health for various educational and nursing magazines.

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Member:

American Public Health Association, American Medical Association, Sigma Zi, Nu Sigma Nu, Delta Upsilon.

* * * * *

Maternal Deaths—One In A Thousand,—The Journal takes pride in announcing that for the first time in history the maternal mortality rate for a large nation—the United States of America—has been pushed slightly below the apparently irreducible minimum of one maternal death per 1,000 live births. When the 1949 rates for Sweden, Norway, Denmark, the Netherlands and New Zealand become available, one or more of these small countries with homogenous populations may join the United States in the select group of countries with maternal mortality rates of 1.0 or less. The 1933 rates for the United States, Sweden and (the whites of) New Zealand were 6.2, 3.1 and 4.4. Reductions in maternal mortality in the United States are, however, remarkable because they have been made in a population which contains, as a result of immigration, many diverse groups from the health standpoint.

This great record in maternal care takes the medical historian back to the days of Semmelweis in Austria, who led the medical profession toward the ideal of extreme cleanliness in maternity cases — the true pioneer of antisepsis in obstetrics. Previously, Oliver Wendell Holmes had pointed out the contagiousness of puerperal fever. One also thinks of Lister, a pioneer in antisepsis. From Journ. A.M.A., Nov. 25, 1950, p. 1096.

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EDITORIALS

Society of Public Health Educators,—The creation of a professional Society of Public Health Educators in St. Louis last October marks another step in the development of a new profession. Public health education and school health education have developed rather separately, but each recognizes the need for the other. In schools we find that we are stopped short of full achievement unless we have the understanding cooperation of home and community. No community program of health education can reach its fullest potential accomplishment without health education in the schools. Either can exist without the other, but each can succeed better in the presence of the other if suitable coordination is established. School health workers are therefore especially interested that the new Society shall make its greatest possible contribution to the nation's health.

The two fields require many of the same skills and some which are different. Instruction and motivation of the individual are common to both. Yet working in a health department or a voluntary agency differs sharply in many respects from working in a school system. The group dynamics of adult participation and the use of the media of mass communication are major activities in public health education. Conversely, the school health educa-

tor needs special skills in working in the framework of organized education, and in using acceptable classroom technics. Some common problems the two groups can well discuss together; yet each group has many problems which it can best consider by itself.

Every profession, sooner or later, goes through a process of professionalization as standards of professional training emerge. At present the only schools for training public health educators which are under professional supervision and accreditation are the accredited schools of public health. The Society anticipates the possibility that additional schools may be accredited by it or by some other responsible agency, and proposes eligibility for fellowship on the basis of training at any school which it may accredit and also upon the basis of successful experience. It may be that sometime health educators will be trained for both activities on a six-year program after high school.

The Society proposes to cooperate as effectively as possible with all other associations which touch its field of activity. As one of its first activities it has established a committee to seek ways and means of securing closer cooperative and integrative relations between public health education and school health education. Certainly community health education involves both, and all school health personnel will welcome opportunities for cooperative planning and action in the over-all community program.—*C. E. Turner.*

* * * * *

Athletics,—Particular attention is invited to the study of the content of the leading article in this issue, "The Examination and Evaluation of High School Athletes," by Thomas E. Shaffer, M.D., a pediatrician of high standing. It emphasizes a phase of Health Service in the schools — and colleges — that badly needs emphasis and improvement.

Even slight familiarity with the supervision of the physical welfare and protection of high school athletes shows us serious laxness or worse in this field of health protection.

In some areas there is no pre-season physical examination of candidates for participation in interscholastic physical competitions, or the examination is done in such a "sloppy" manner that it is almost worse than none.

The examinations are hurriedly done, often in an environment that makes worthwhile accurate examination impossible. Tests should be made where conditions of quiet, lack of confusion, and possibilities of concentration exist.

In many high schools the ideals of accuracy and of complete-

ness are lacking. Not only is the heart examination limited to a slipshod stethoscopic survey, but there is an equally careless chest examination, and usually none at all of the kidney function.

Often, too, the examination is made by someone hired by the athletic association or from its funds. This is, at the start, an acknowledgement of one of two things. Either those in charge of athletic interscholastic competition lack confidence in the skill and care of regularly employed school physicians — in which case a better type of school physician should be employed by the Board of Education; or those in charge do not want a careful and fearless examination, fearing that some prominent competitor "be found wanting," and thus lost to the team.

We get back to the fundamental — are inter-school athletics (and some of the colleges and universities exhibit the same unethical procedures as do the secondary schools) run for the benefit of the players or for the benefit of those conducting the activities, or—and this seems apparent in some cases—for cash. —C. H. K.

* * * * *

REVIEW

Sex Education as Human Relations. Lester A. Kirkendall, Inor Publishing Company, Inc., New York, pp. 351, price $4.50,— There are so many vaporings—and so much nonsense and dangerous procedures in discussing and trying to inform in this largely unexplored area of class instruction, and it is so great a relief to find a planned text, written by one who has a real background in this field, that a reviewer tends to become enthusiastic about it.

The contents are divided into five parts:

The Evidence of Need and Results, Philosophy and Objectives, Institutional Relationship, Methods in Sex Education, Content and Materials in Sex Education.

While one questions somewhat the accuracy of any data gathered by the questionnaire method — either oral or written — in an area of human experience often buried so deep in feelings of self-consciousness where the urges to boast or to minimize are so powerful, and where one is faced by the fact that knowledge often does not compel good conduct, nevertheless it is felt that Part IV — Methods in Sex Education — divided into chapters on Approaches, Building Support, Teacher Qualifications, etc., Launching the Program, Methods, Techniques and Procedures, and Appraising are particularly valuable.

This is a text that should be in the libraries of all teachers' colleges, and of all public and private schools, teachers' libraries, and freely available and generally read by all teachers in training and all teachers employed.—*C.H.K.*